

Advice from SIGMOD/PODS 2020

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1 Audience

This document collects the experiences and advice from the organizers of the SIGMOD/PODS 2020, which shifted on short notice to an online-only conference. It is mainly intended for others who are organizing online conferences, but some of it may be of use in the future to people organizing “live” conferences with an online component.

2 Timeline

SIGMOD/PODS 2020 was originally planned to take place in Portland, Oregon on 14-19 June 2020. While we contemplated early in January 2020 that the coronavirus outbreak might interfere with attendee travel, the realization that we would need to support some kinds of remote access came to the fore around January 21, with the first detection of a case in the US (in Washington state, adjacent to Oregon). By the first week of February we were hearing about in-person conferences with low turnout because of the ban on direct travel from China, and the organizers started discussing capacity for streaming and recording most sessions. We also recognized that we might have to provide for remote or prerecorded presentations. In early March, the US had 400 detected cases of COVID-19, and was experiencing problems with testing. There was a call then of some of the conference organizers with the SIGMOD Executive Committee (EC). We discussed the possibilities of canceling, postponing or going completely virtual. No final decision was taken, however canceling was unattractive—given that most of the paper reviewing was nearly completed—and postponing could mean

dealing with the same issues farther down the road. Thus hybrid and completely virtual were the most likely choices. On 10 March we announced that the conference was going forward at the scheduled time, but that there would be provision for authors who couldn’t attend.

By the second week of March, the situation was shifting rapidly. Companies and universities were banning non-essential travel, with no clear end time to the bans. On 11 March, the governor of Oregon banned gatherings of over 250 people for the next four weeks (but with no guarantee the ban would be lifted then). SIGCSE 2020, which had just started in Portland, canceled the remainder of their in-person conference. On 12 March we started exploring in earnest alternatives for remote participation by both presenters and audience members. It was a period of high uncertainty. We hoped to learn something from other conferences, such as EDBT/ICDE 2020 scheduled for the end of March, and ICDE 2020, which was considering postponing from their April dates (but ended up retaining their original dates in virtual mode). On 19 March the EC in consultation with conference organizers decided on an all-virtual conference. While that decision simplified some aspects of our planning (e.g., no food and beverage menus), we now had to deal with our contracts with the hotel and banquet venue. At this point we were less than three months out from the conference start, and needed to quickly determine what parts of the program to retain (which ended up being almost everything except end-of-day poster sessions). At the request of ACM, we held off on announcing the cancellation of the in-person part of the conference, while they negotiated with the hotel. On 24 March we announced that the conference was taking place, but the extent of

the in-person component (if any) was still to be determined. On 2 April the hotel agreed to let us cancel the contract without a penalty payment. In the days that followed, we notified the organisers that the conference would be all virtual, followed by the sponsors. On 10 April, we announced the change generally.

Overall response was positive. Of the 175 respondents to a post attendance survey, 67% thought that the conference was slightly better or much better than expected:

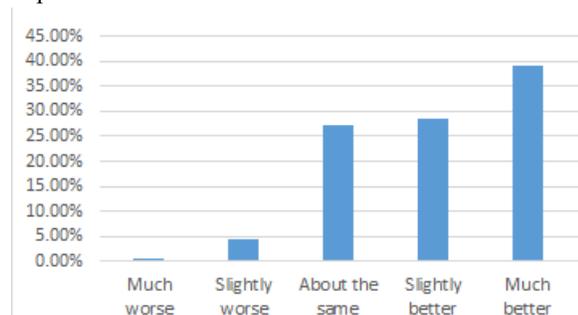


Figure 1: How well the conference met attendees expectations.

The remainder of this document covers some of the main decisions we made leading up to the conference, then touches on some of the details, plus the most-requested features that we didn't support. The final section includes additional selected statistics from the post-conference survey and the logs of Zoom sessions.

3 Preserve the Core, Retain the Schedule

Our first cut at a detailed plan for a fully virtual conference dates from 14 April. Our general goals were:

- Reuse as much of the planning as possible.
- Preserve the core of the conference.
- Regulate expectations.

Reuse our planning: The original conference schedule had consumed a lot of time and effort, both because of logistical constraints at the hotel, plus a program that included significantly more papers than recent years and a desire to have most tutorials during the conference proper, rather than in tandem with the workshops. While many of the logistical constraints

went away with abandoning the in-person component in the conference, any significant rescheduling would mean more rounds of negotiations with SIGMOD and PODS PC chairs, plus the demos and tutorial chairs, plus the Student Research Competition. There was discussion of compressing the conference into a shorter period of time by reducing talk times and cutting the lengths of breaks and lunches. However, even though we no longer needed the time for coffee breaks and meals, we felt that people would need breaks to get away from their screens and stretch. In the end, the breaks in the schedule were useful for social-networking events and sponsor talks. There was also brief consideration of an asynchronous format, which we saw a few other conferences using. However, we wanted to retain the possibility of some live elements, plus 24-hour staffing for technical support and monitoring would have been difficult. In the end, our schedule was similar to the one we had for the in-person conference, with a few adjustments, such as parallel demo sessions and shifting a couple events (PODS business meeting, New Researchers Symposium) to early morning to make them more accessible to participants in Europe.

Preserve the core: We sought to “preserve” the core in two senses: 1) Retain the main elements of the conference, and 2) Have a record of the conference that people could access in the future. In terms of retaining elements, we certainly wanted to keep presentations for all PODS, SIGMOD technical and SIGMOD industrial papers, and we focused on those sessions initially. We ended up retaining almost all other elements, including demos, keynotes, panels, tutorials, business meetings, awards session, Student Research Competition, New Researcher Symposium, and workshops (though one workshop decided to cancel). The main thing that went away was the poster sessions each afternoon for all presenters for a given day. We did not identify a good way to support the large parallelism needed, and the time would have been after midnight in Europe (though manageable in much of Asia). In terms of retaining content, the papers would be available in the ACM Digital Library in any case. We also wanted to preserve as many presentations as possible, plus the associated Q&A. For the latter, since we weren't sure at first how it would be handled (via chat, within the streaming

channel, live), we were uncertain about capturing discussions.

Regulate expectations: Given the very short lead time, and the relative inexperience of all involved organizing a fully virtual conference, we did not want to over-promise on what we could deliver. Thus, as our initial baseline, we targeted pre-recorded talks, with questions in a chat channel, likely Slack. As more pieces became clear, such as the ACM subscription of Zoom and the capabilities of our A/V company, and as we saw what was working for other conferences such as EDBT/ICDT 2020 and ICDE 2020, we raised our sights to include live Q&A and some live sessions. We also wanted to give value to our sponsors, but were uncertain at first what we could offer and what would be appreciated. Based on much back-and-forth between our sponsor chairs and sponsor representatives, we added the option of sponsors getting half-hour talk slots and the opportunity to host other events (that they would set up and we would link to). We also provided “booths” in our virtual interaction space (Gather) for all sponsors.

4 Professional Help versus All Volunteers

We ended up being lucky in that the companies we had engaged to help with the in-person conference were able to stay with us and adapt to the changing needs for our virtual conference. We had engaged Integrated Management Solutions (IMS) to help with onsite logistics, such as food and beverage planning, A/V requirements, room scheduling and set-ups, tracking registration and monitoring and troubleshooting during the conference itself. They agreed to stay on in their support role as the conference shifted to online, helping collect and organize information for the detailed schedule, tracking video uploads, interfacing with our technical team, helping sort registration problems, monitoring Zoom and Slack for problems during the conference, and myriad other tasks. IMS in turn helped us connect with Gateway Production Services (now Equipment Asset Management) as a lower-cost alternative to the in-house A/V service at the hotel, to handle projection, audio, streaming and recording at the in-person conference. We were fortunate to have technical support that was not tied to the hotel. While Gateway did not have much prior experience with Zoom, they mastered the nuances

quickly, and took over storing pre-recorded videos, organizing them for playback during the sessions, providing technical hosts for all conference-supported sessions, setting up Slack channels, making training materials for Zoom, and engaging a web designer to set up our schedule pages with all the Zoom and Slack links. While the conference was not without glitches, it on the whole ran smoothly. We do not believe it would have done so without the help of IMS and Gateway.

5 Live versus Recorded Presentations

A key question is whether presentations should be delivered live or prerecorded. Some people advocated for live presentations as being more spontaneous and interactive. However, there are risks with that approach: a presenter or session chair might have trouble connecting to your meeting platform, there might be background noise in the audio, there could be network interruptions, someone might get the time-zone difference wrong. (I (DM) am writing this just after our first SIGMOD plenary session, where our speaker had problems connecting to Zoom and also dropped out for a couple minutes in the middle of his talk.) For SIGMOD/PODS, we used prerecorded presentations with live Q&A for the most part. There were some keynotes and awards talks that were done live, as were some tutorials. Other tutorials interspersed recorded segments with discussion periods.

We also provided links from the online schedule page from each talk to the corresponding paper in the ACM Digital Library (except for a couple workshops whose proceedings weren't finalized at conference time). Access to papers provided an added way for participants to get additional information about a talk. We are intending to provide links to recordings of our sessions through the online schedule page as well. However, as of this writing (27 July 2020), the videos are just starting to be posted—there have been some delays involved in editing out segments for papers where the presenter did not give permission to post recordings on their rights form.

Some observations and suggestions:

- Having pre-recorded talks helped keep things on schedule. Session chairs didn't have to be timekeepers for presenters.
- Authors could monitor questions in the Zoom Q&A and Slack and answer them as the talk was proceeding.
- Make clear to people as early as possible that they will need to record their presentations, what the length is, the required format and when the deadline will be. You can follow up later with upload instructions.
- There were a handful of videos that exhibited a problem with audio lagging video by about 4 seconds (which might be due to limitations of some free editing tools). If we had been able to collect videos earlier and post them, then authors (or someone else) would have been able to check for problems.
- If someone wants to present live, insist on a test with them in advance. It would also be good if the host had the slides, which would permit the talk to go on with an audio-only connection.
- Think about a system for collecting videos. Mapping videos to the correct sessions is a logistical challenge. We relied on a naming scheme for the video files. It would have been easier for us if we had had time to set up an upload site where the submitter could supply some metadata with the video, including selecting a session from a pull-down menu.

6 Webinar versus Meeting Mode

Shortly after we decided to go to a fully virtual format, ACM subscribed to a Zoom meeting plan, and let conferences use it without cost. We decided to use Zoom for our conference sessions, based on familiarity of most potential participants with it and the budget savings for us. (We did need to pay to upgrade some sessions beyond the 300-person-per-session limit of ACM's plan.) We reserved the use of up to nine of ACM's slots for the conference.

There was then the question of whether to run sessions in meeting or webinar mode. In meeting mode there are hosts and participants, where participants can share audio and video at will. Webinars have hosts, panelists and participants. Panelists can share audio, video and desktop, while participants can only view and listen.

However, the host can promote a participant to a panelist at any time. Also, webinar mode supports a Q&A pane to which everyone can post questions, and hosts and panelists can add answers. While meeting mode makes participants more visible, we decided to conduct nearly all sessions in webinar mode, to give the session chair and presenters a bit more control, and to avoid issues with intentional or unintentional disruptions, which others using meeting mode had reported. Using the same options and settings across sessions helps people get used to the "style" of interaction as the conference progressed.

For each session, we had (at least) two hosts. One was the technical host, provided by Gateway, and the other was the session chair. We needed to collect the names of session chairs in advance of the sessions, as they needed to be added as hosts at the start. In most cases, we did not have names of speakers ahead of sessions. Rather, they would join the session and identify themselves to the hosts, who could then promote them to panelists. Hosts could also promote someone with a question to a panelist, to ask the question live, though some hosts chose to read the question to the presenter.

Some observations and suggestions:

- We tried to start each Zoom webinar 15 minutes before the actual program started, so people could check their connections.
- Some people report being disquieted by being constantly visible, or constantly seeing themselves. Note that in a typical conference setting, audience members' faces are visible only to the speaker.
- Some workshops and sponsor events provided their own Zoom links. There was sometimes an issue with getting problem reports to the right place—participants were not necessarily aware that a link was not for a conference-supported session, and posted to the general tech-support Slack channel, rather than the one for the event. Some of those "external" Zoom sessions required registration, which caused problems for people connecting to the session from within their browser. Some companies ban employees from installing the Zoom application on work machines.
- We did do some testing in advance that our Zoom links were accessible from other countries.

- Gateway provided a training video and slide deck for session chair, plus set up practice sessions. There was also a video for participants, plus the slide roll before each session with basic instructions for participants. The program chairs also prepared guides for session chairs and speakers.
- PODS was configured with a single Zoom webinar per day. That meant that the Zoom logs did not break out attendance information by session, though the program chair did note this information.
- It wasn't feasible for a single technical host to handle back-to-back Zoom sessions (where one would start immediately after the other ended). It takes time to launch a Zoom session, plus we wanted to have a 15-minute buffer period before each session. That limitation was one reason that some sponsor talks and social-networking events ended up with "external" Zoom links. In retrospect, we should have arranged for one or two "tracks" in addition to those for regular conference sessions, to handle these additional conference elements.

7 Slack and Bulletins

Our choice of Slack as a discussion platform was mainly based on our familiarity with it (and assumed familiarity of most participants), plus the availability of a free tier with 10K messages visible. (Older messages are preserved, but are not visible without payment.) Our original baseline for the conference was streamed talks and all Q&A on Slack. When we adopted Zoom for our meeting platform, with its own Q&A support, we decided to retain Slack, as a vehicle for post-session discussions. That capability was especially important given that some sessions were at times not conducive to live viewing in some time zones.

We had observed some previous conferences where most Slack channels were lightly used. However, our experience was that nearly all channels had significant traffic, and we crossed the 10K-message threshold by the end of the conference (hence the messages from the beginning of the conference were no longer accessible). There were 1330 participants who signed up for the conference workspace. We provided a

channel per session, plus one per sponsor and a few others (see bullet below). Session chairs often seeded their channel with a description of talks, and some transferred the unanswered questions from the Zoom Q&A to the channel after the session. Presenters almost always followed up to answer these questions. Some presenters posted links to slides, datasets and software in the channel for their session. Some channels saw further discussion around the theme for the session, on topics beyond those in the specific papers.

In addition to Slack, we sent an email bulletin every evening to all registrants. Those bulletins contained information about accessing the conference schedule, Slack and Gather. They contained highlights for the following day's program, contained answers to some frequent questions, and linked to other sources of information. We also listed all sponsor talks and social networking events for the coming day, as those were new elements to the conference, and participants might not be explicitly looking for them.

Additional notes:

- The Slack workspace wasn't protected, but we did not see issues with inappropriate content being posted. Session chairs or others would sometimes post the Zoom links for their sessions, which meant they were no longer password protected, as they were in the online schedule.
- In addition to session and sponsor channels, there were channels for general announcements, a bulletin board, tech support, and conference help.
- It appears that a workspace administrator needs to create a channel if people who newly join the workspace are to automatically see it. Others who create channels can subscribe all current users, but not (automatically) those who join after the channel is created.
- A channel per session was about the right granularity. Fewer channels would have made it hard to find posts relevant to a given paper. However, a channel per paper would have overwhelmed people with channels (there were already some complaints about how many there were), plus it would not provide a place for discussions related to the session topic generally.
- There may be alternatives to Slack worth considering, perhaps with a more generous free

tier or an alternative pricing structure (such as per message versus per user/month).

8 Free Participation for Most

Once the decision was made to go fully virtual, the budget picture changed greatly. We wouldn't, for example, have expenditures for food and beverage, nor on-site A/V rental. However, there were still many uncertainties at that point. On the income side, we did not know if sponsors would leave or lower their sponsorships levels. On the expense side, we were trying to estimate our sunk costs. However, we needed to have a new budget relatively soon to reopen registration (which we had shut down prior to the announcement of canceling the in-person component). Looking at other conferences that had shifted to virtual mode, it was fairly common to require one author per paper to register at the full (albeit reduced) rate, and for other participants to have free or nominal-cost registration. We followed that model, with a \$300 registration fee for regular authors and \$100 for workshop-only authors. All other participants could register for free. Our budget was conservative, with a \$100K+ cushion between anticipated income and expenses. In the end, the surplus was less, due mainly to a few additional expenses and lower than forecast registration income because of duplication of authors between papers and student waivers. (We set up a waiver program for papers where all authors were students.) Sponsors got a number of free registrations based on their sponsorship level. Given that most participants were free, these registrations only had value if someone from the company was registering.

We decided on a target of 3000 registrants, based on what we thought were limits on the ACM Zoom license: 10 hosts at 300 people per session. We held back 100 slots for those who should have registered but didn't, such as session chairs, organizers and panelists. We ended up using about 50 of those slots, so total registration was around 2950. We maxed out before the conference started, so there were likely additional people who wanted to register, but couldn't. We could probably have accommodated more, as obviously not everyone who registers is going to attend every session, plus it is possible to purchase "upgrades" to increase attendance at a given session (which we did). It appears we only hit the attendance

limit (of 1000) on one session, the first SIGMOD session, which included welcoming remarks and a keynote talk. There was also a possibility that some non-registrants were able to attend Zoom sessions, as we only password-protected the online schedule as a whole, and not individual sessions. Links to some Zoom sessions may have "escaped" by people posting them in non-protected places.

While it was useful to have a \$0 participant fee this year to gauge the level of interest, we suggest a \$20-\$40 fee in the future. It will cut down on the number of people who register and do not attend, plus there are certain costs that accrue on a per-head basis (such as the fee to the registration company). Such a charge could be accompanied by a generous waiver program, so as not to exclude those who truly want to attend but have limited means.

9 Supporting Social Networking

The biggest drawback of a fully virtual conference is the absence of the "hallway track": the ability to easily have impromptu conversations with small groups. To partially remedy this gap, we added two elements to the conference: Social Networking events and the Gather virtual interaction space.

The **Social Networking** events were organized by the social events chair and the SIGMOD PC chairs. The goal of these events is to enliven the social aspects of conferences and in particular, provide more-junior members of the community an opportunity to hear from and interact with more senior people. These events took three forms:

1. Zoomtables: The typical SIGMOD technical session had five 12-minute presentations—plus 2 minutes each for questions—in an hour-and-a-half sessions. As this is the first time zoomtables are implemented, only some of the of the sessions chairs were encouraged to turn the remaining 20 minutes into a roundtable discussion with experts in the session topic whom they invited. Each had a "spillover" Zoom session where the conversation could continue beyond the end of the allocated session. Every zoomtable was very well-attended, and we would recommend this feature to continue for the next conferences.

2. Zoomside chats: There were a number of sessions with senior researchers with topics ranging from "Ask me anything about life in the academia" to "Experience Sharing: How to conduct research" with senior researchers in the field. These were separately scheduled Zoom sessions, either before the first program session of the day, or during breaks. Again, every zoomside chat was well-attended, and we would recommend this feature to continue for the next conference.
3. Women in DB. This event was advertised as "a roundtable discussion on research, mentorship, career paths, failures, work-life balance" with seven mid-career and senior women in the field. It was targeted at women beginning their careers in database research (but not restricted to them) and had women researchers at various stages in their careers leading the discussions. This session was very well-attended and should continue in the future.

In addition, the program and executive committees for SIGMOD organized an online retirement party for C. Mohan, who retired from IBM at the end of June. In contrast to the other social networking events, attendees for this event tended to be more senior. In particular, it attracted a number of retired members of the community, most of whom would not have come to a live conference just to attend such an event.

In retrospect, an additional Zoom track for social networking and similar events would have been worthwhile, at least for the Tuesday–Thursday run of the SIGMOD Conference proper.

After we decided to shift to a fully virtual conference, we learned of **Gather** (gather.town), which is a new platform that supports informal virtual interaction. Briefly, users are represented by small avatars in a 2-D meeting space. When two avatars approach each other, the video and audio for the two users fades in, and they can converse. Groups of 2 to 6 or so can form dynamically, much as in break spaces at conferences. (However, as at conferences, you might not be able to hear someone on the far side of a large group.) We also worked with the developers of Gather to add support for sponsor booths, which included branding, private conversation areas, private rooms and pop-up content, depending on the sponsorship level.

While only a fraction of participants visited Gather, many of those who did were enthusiastic about it. People were able to both connect with existing acquaintances and meet new people. We announced a couple of "parties" in Gather at times where no other events were scheduled, and that served to bring people into the space. Two ideas we had to encourage usage that we ran out of time to implement: 1) one or more "preview parties" before the conference started for organizers, sponsors, student helpers and others to familiarize them with the space, 2) creating a short video to orient people to the space. We did provide a written guide, plus gave advance "tours" to some people.

We did get suggestions about new features and improvements for Gather, such as making it easier to find a particular person in the space. However, the platform is advancing rapidly, and many of those items are already being addressed, so we won't list them here.

10 Retaining Sponsors

Even before we announced the conference would be fully online, we were hearing concerns from sponsors both that their staff might have trouble attending because of company travel restrictions and to what degree in-person attendance might be reduced. We were obviously concerned about how much sponsorship support we would retain as our plans evolved. Many sponsors participate for the networking and recruiting opportunities, while others, such as book publishers, are there mainly for marketing purposes. We only had a few sponsors in the latter category this year. Some sponsors just want to support the community, or particular aspects, such as diversity and the Student Research Competition.

The SIGMOD Sponsorships Chairs handled the bulk of communication with sponsors, trying to keep them abreast of conference developments, and soliciting suggestions of what they might find valuable in this new format. The accommodations we made this year for sponsors included:

- Bumping sponsorships levels up. For example, a sponsor who paid for Gold level was listed at the Platinum level.

- We added sponsor talks, or other events of their choosing. These were ½-hour long. Some talks used conference Zoom sessions, some sponsors provided their own. These talks were well attended, with more viewers on average than the technical sessions. (The talks were not scheduled in parallel with technical sessions nor each other.)
- There was a Slack channel for each sponsor.
- Sponsor logos were included in the slide roll before each session, and extended thanks were included in the welcoming remarks from the General Chairs.
- Each sponsor got a “booth” in Gather, whose size and placement depended on the sponsorship level. Looking back, it would have been useful to have functionality for participants to get to booths more easily, such as a special link that could take you to a Gather “spawn point” near a particular sponsor’s booth.

11 Frequent Requests

There were several requests and suggestions for additional capabilities that we lacked. Most of these we considered in some form, but were not able to implement given short lead time and the need to focus on essential elements.

- Posting of the talk videos before the conference.
- Making slides for the talks and tutorials available. (Some presenters posted their slides or a link in the corresponding Slack channel after their sessions.)
- Links from the Overview Schedule to appropriate parts of details pages. (We had hoped to do so, but the schedule pages were still in flux as the conference was starting.)
- Local time adjustment: Having the times of session appear in a viewer’s local time zone on the schedule.

12 Suggestions for Future Conference Organizers

- Have a Video Chair. We envisage that most SIGMOD/PODS conferences in the future will provide for prerecorded video presentations (at least as a back-up) and capture of most sessions to

video. This position will need to interface closely with both the program side and local arrangements side of organization—monitoring the collection of videos, checking their quality, organizing them into the appropriate sessions and order, possibly advance posting of them, and planning and providing for posting of videos that are captured from sessions. Also, this person can follow up with authors who do not opt to give permission for recording on their rights form. (We found that at least half the authors who had selected “no” on the rights form had done so in error.)

- Collect additional information from authors, such as who the presenter will be and what time zone he or she is in.
- Even with a fully virtual conference, last-minute registration can be a problem: it’s hard to set up credentials on different platforms instantly when someone registers. We ended up having to set up a temporary password for the online conference site for “day of” registrants.
- Also, make clear to all organizers, sessions chairs, keynoters, panelists and so forth that they need to register (even if registration is free). You want the registration site to have a complete record of registrants in order to reliably reach everyone by email.
- Consider an Award Coordinator position. The number of awards and recognitions announced at the conference has grown steadily over the years. It would help to have a single person who is collecting information about winners, arranging the session where awards are presented and talks given, and organizing plaques and payments where appropriate.
- Having the capacity for remote attendance by both presenters and audience members definitely broadened participation. It will be for others to decide whether to retain these options when the conference returns to live format. It will be a challenge to keep remote participants from being left out of the informal parts of the conference, and to dissuade local participants from spending even more time with their screens.
- Having free registration for most participants meant there wasn’t a direct way to incentivize student volunteers. We did recruit some students to help with monitoring Slack channels and the

Gather space—they were for the most part students working with organizing and program-committee members.

- **Note to 2021 organizers:** We did obtain an NSF grant to support student travel, but did not make any awards from it. We have been informally told by the program director that we can use the funds in 2021, but the grant will need a no-cost extension.

13 Favorite Quotes:

We make no claim that these remarks are statistically representative, but they made us feel good.

On opening SIGMOD keynote: “What an amazing session. I wouldn’t have been able to attend the conference in-person, so this having this virtual session is turning out to be a blessing! Thanks to the SIGMOD committee for offering this virtually and free for all!!”

From a sponsor: “This is the second virtual conference we do, and this is by far the best organized.”

From an attendee: “thanks for the great organization overall, I know it is an incredible effort!”

Mohan: “Gather was also a lot of fun and a very novel experience.”

Trip report: “This virtual conference was FANTASTIC.”

Another trip report: “However, with Zoom, the magic happens. I can open up all sessions I’m interested in and mute the speaker via drop audio setting in Zoom. If I find the topic I want to hear more, I can instantly switch to the desired Zoom window, reset the audio setting, and listen to the talk.”

One more trip report: “Overall, the conference is life-changing, and I felt grateful for the opportunity to participate.” & “But thanks to Gather, I found that it became easier for my personality to come through when I was oblivious to who I was talking to, or when I was so carried away by my curiosity and burning questions.”

From our final bulletin to participants: “The last workshop has finished, and SIGMOD/PODS 2020 is now history. We suspect it will be a landmark in most of your minds, separating SIGMOD/PODS Conferences into those pre-2020 and those post-2020. Even before all the adjustments brought on by the COVID-19 crisis, we planned to stream more of the sessions. Our registration of ~3000 shows that there is high demand for online access to the conference. If our community is serious about fostering diversity and inclusion, then remote participation should become a permanent option. We are proud of the adaptability and flexibility of the organizers, many of whom found themselves doing jobs much different than those they anticipated when they agreed to help. We are pleased at the level of engagement of participants, with substantial interaction in the Zoom Q&As, Slack channels, Social Networking events, and Gather space. We feel we largely succeeded in delivering a conference that preserved the core elements of an in-person conference: a high-quality technical program, provocative keynotes, timely tutorials and lively panels. There were some elements that we couldn’t readily emulate in the on-line format (conference banquet, sponsor swag), but maybe someone will figure those out for the future. We received many good suggestions for additions and modifications leading up to the conference that we couldn’t pursue for lack of lead time and cycles. Undo-redo recovery is resource intensive—ask Mohan!”

14 Selected Survey Responses and Zoom Analysis

We conducted a survey of attendees by sending them email on the last day of the conference. We received 175 responses (out of ~2950 people who registered). In this section we list some selected responses. Many of the questions are the same as those used at EDBT for those wishing to draw larger conclusions about online conferences.

For the Zoom log analysis, we note that we have only partial information, since some of the logs were in different formats, rendering it impossible to perform good aggregation. The number of distinct participants

was at least 1,912 from 55 countries, which is surely an underestimate, since not all logs were available in readily consumable form, and in particular, were not available for the SIGMOD keynotes. Additionally, the information that we had only recorded the total number of attendees for a session, which was generally greater than the maximum attendance observed at any particular point. Finally, workshop attendance was calculated only per day, not per session, since workshops were structured as a single Zoom meeting.

14.1 Sessions

Overall, session attendance was reported as high among respondents and according to the Zoom logs. While we only have partial information from those logs, the average number of people who attended a SIGMOD Research talk was 135. The highest attendance was the first keynote with 762.

Overall, the average number of attendees per session type was:

| | |
|------------------|-----|
| Demos | 41 |
| Industry | 152 |
| PODS | 105 |
| SIGMOD Research | 135 |
| Sponsors | 173 |
| SIGMOD Tutorials | 97 |
| SRC | 39 |
| Workshops | 281 |

The average for PODS days was 214 attendees, though we note that this was highly variable and measured across days. (The PODS keynote had 334, and the Test-of-Time + Gems session reached 225.) The workshop numbers are only for those that used the conference provided hosting; workshops that used their own hosting are not included.

We saw 64% of respondents to the survey report going to fewer sessions than they would normally go to:

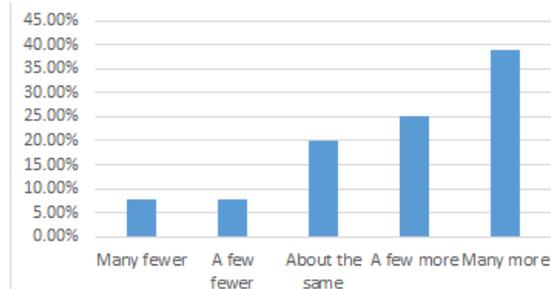


Figure 2: Compared to how many sessions you attended, how many sessions would you have attended if the conference had been physically located?

Respondents reported being overall neutral or happy both with the talks compared to in person talks:

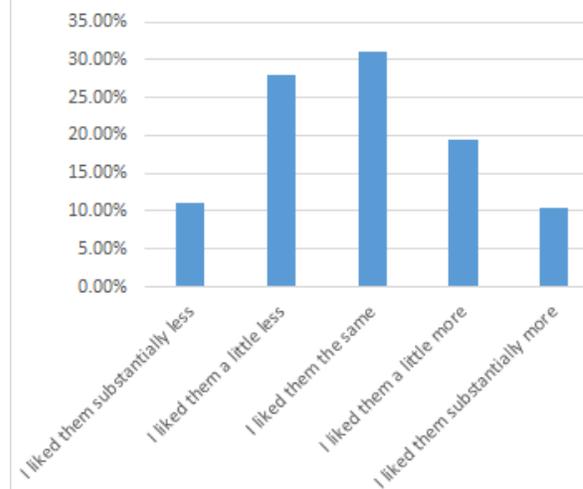


Figure 3: How did the online video presentations compare to conventional conference talks?

And with the questions and answers:

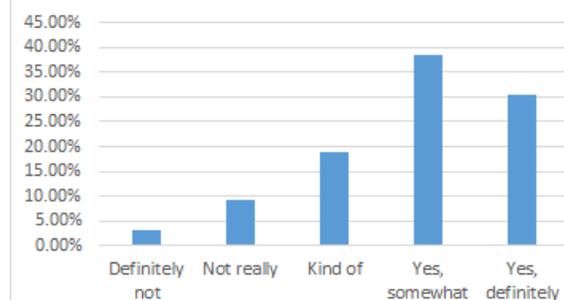


Figure 4: Did the interactivity of the Q&A during sessions meet your needs and expectations?

14.2 Slack

Slack usage was higher than anticipated based on experiences in other conferences. As of Friday afternoon, 1328 people had Slack accounts for the conference. We exceeded the 10,000 message limit for message archives on a free account. (A paid account for the month would have cost >\$10K.) This behavior may result from several factors, including the session and PC chairs being very proactive in seeding information in their sessions, and the frequent posts by Mohan. Overall, Slack was viewed quite positively.

People were generally happy with how helpful it was for questions and answers when the talks were not in session:

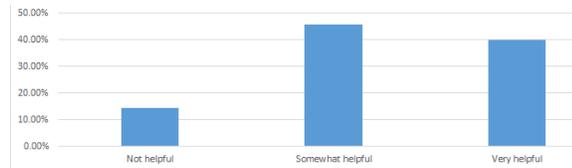


Figure 5: How helpful did you find the Slack channels for asking questions when the session was not being held?

14.3 Sponsor Talks

Due to the online format raising a concern as to how much visibility the sponsors would get, we included talks for the sponsors. These were both very popular by the numbers (there was an average of 173 people per sponsor talk—higher than the number of attendees at the research sessions) and with responses from attendees.

We saw that 44% of respondents attended at least one sponsor talk:

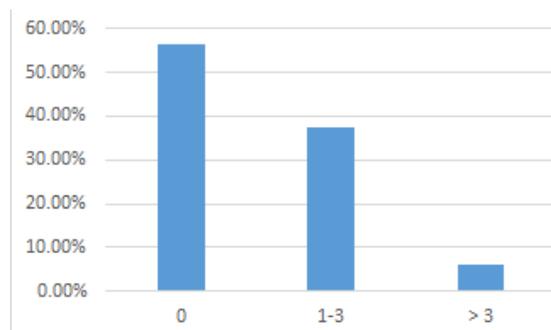


Figure 6: How many sponsor talks did you attend?

Of those who attended a sponsor talk 91% reported them to be somewhat or very useful:

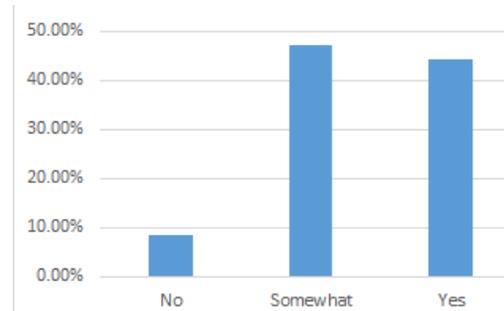


Figure 7: Did you find the sponsor talks to be useful?

There is appetite for continuing sponsor talks in the future, whether the conference is physical or virtual, with 75% of those who responded (117 individuals) saying that we should continue having the talks even at physical conferences:

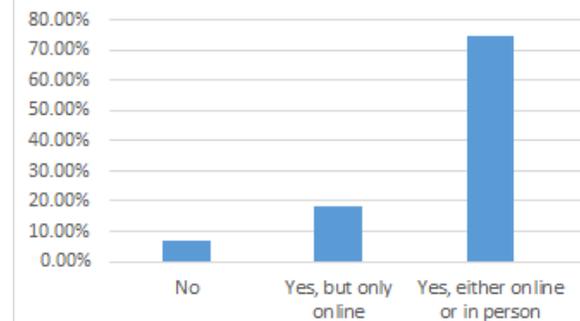


Figure 8: Should we consider having sponsor talks at future SIGMODs?

14.4 Social and networking options

The social and networking events were well received, even though obviously nothing can replace in-person options.

46% of respondents reported that they attended at least one social or networking event:

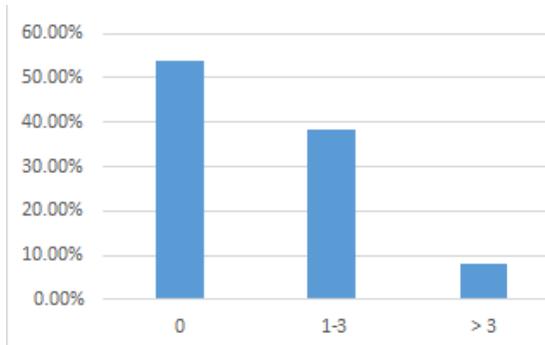


Figure 9: How many social and networking events (Zoomtables, Zoomside Chats, Retirement Party, Gather Parties) did you attend?

Given the limitations of an online platform, the fact that 36% of attendees thought that there were enough social and networking options should be seen as a positive:

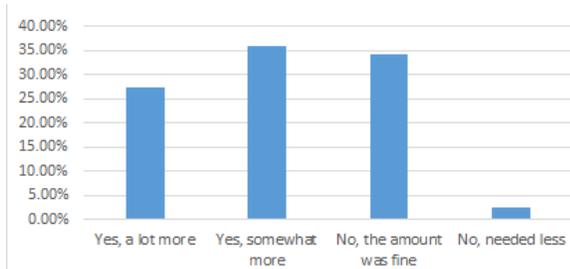


Figure 10: Did the conference need more social interaction?

Gather was a mixed success. Only 40% of respondents (who, given that they took the time to respond to the survey, seem more likely than the average attendee to be interested in such things) used Gather:

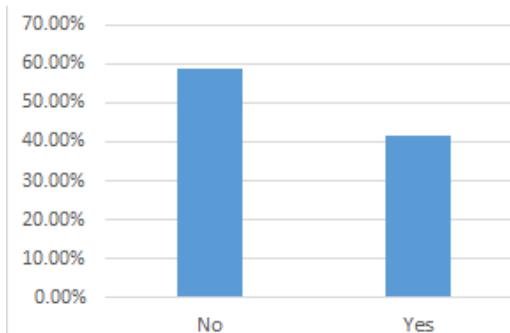


Figure 11: Did you use Gather?

However, of those who used Gather, 70% liked it either a lot or a great deal:

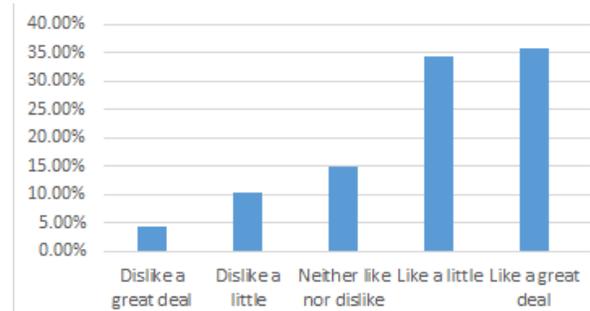


Figure 12: How much did you like using Gather?

Given that the platform was just in its infancy, this response is highly encouraging, and we recommend those who are putting on future virtual conferences to consider this or similar platforms.